



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,598	12/18/2006	Carsten Andersen	ELM-0008	5332
23413 7590 08/01/2008 CANTOR COLBURN, LLP 20 Church Street 22nd Floor Hartford, CT 06103				
EXAMINER CHOL PETER Y				
ART UNIT		PAPER NUMBER		
1794				
MAIL DATE		DELIVERY MODE		
08/01/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/577,598

**Applicant(s)**

ANDERSEN, CARSTEN

**Examiner**

Peter Y. Choi

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 10 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date 04/27/08
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Group I, in the reply filed on June 16, 2008, is acknowledged. Because Applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Based on Applicant's remarks of June 16, 2008, claims 11 and 13 as amended in the Preliminary Amendment of April 27, 2006, will be considered with the claims of Group I. Claims 10 and 12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-9, 11 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1-9, 11 and 13, claim 1 recites that the synthetic fibers are "preferably being crimped and having a length between 12 to 75 mm." The scope of the claim is unclear and therefore indefinite as to whether the recited crimp and length are positive and definite limitations to the claims or are merely suggestive of preferred embodiments.

Regarding claim 4, the claim recites that the content of the fire-retarding chemical is between 1 and 30 of the total fibre material composition. It is unclear what the values "between

Art Unit: 1794

1 and 30” are intended to be within the scope of the claim since the claim does not set forth a standard of measurement or values associated with “between 1 and 30.”

Regarding claim 9, the claim recites that the fibres are “essentially helically shaped.” It is unclear what structure is associated with the limitation such that it is essentially helically shaped and therefore the scope of the claim is indefinite.

***Claim Rejections - 35 USC § 102/103***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3 and 9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPN 5,642,601 to Thompson.

Regarding claims 1-3, Thompson teaches a fibre insulation material for the manufacture of a non-woven fibreboard comprising primary fibre components of a portion of 50% to 90% cellulose fibres, 2% to 20% synthetic fibres, the synthetic fibers preferably being crimped fibres, and 2% to 20% bi-component fibres comprising a core and an outer sheathing, the outer sheathing having a lower melting point than the core (see entire document including column 1

line 5 to column 2 line 67, column 6 lines 5-13, column 8 line 38 to column 9 line 6, column 9 line 63 to column 10 line 11, column 13 line 63 to column 14 line 23, column 15 lines 30-67, column 22 line 45 to column 23 line 24).

Regarding claims 1-3, Thompson does not appear to specifically teach the length of the fibres. However, as set forth above, the claimed limitation is indefinite as the crimped fibres and the length of those fibres do not appear to be positively recited in the claim as necessarily a claimed limitation.

Regarding claims 2 and 3, the synthetic fibres are provided with a fire-retarding chemical (column 13 line 63 to column 14 line 23, column 15 lines 30-67, column 22 line 45 to column 23 line 24).

Regarding claim 3, the cellulose fibres are saturated with the fire-retarding chemical (column 13 line 63 to column 14 line 23, column 15 lines 30-67, column 22 line 45 to column 23 line 24).

Regarding claim 9, the crimped synthetic fibres are essentially helically shaped (column 15 lines 30-67).

***Claim Rejections - 35 USC § 103***

6. Claims 1-3 and 9 are rejected under 35 U.S.C. 103(a) as obvious over Thompson in view of USPN 4,188,531 to Hauser.

Regarding claims 1-3 and 9, in the event it is shown that Thompson does not appear to teach essentially helically shaped crimped fibers having a length between 12 to 75 mm, Hauser teaches that it was known in the fibre insulation material art to form a fibre insulation material

comprising synthetic polyester helically shaped crimped fibers having a length between about 2 and 15 centimeters (Hauser, column 1 lines 11-32, column 2 lines 3-21, column 3 lines 31-68, column 5 lines 31-47, column 6 lines 35-59, column 7 lines 27-60). Hauser teaches that forming a web with such fibers adds resiliency, loft and compression resistance to the web. Similarly, Thompson teaches that the springy synthetic polyester fibers are resilient and provide bulk or loft to the insulation material (Thompson, column 15 lines 30-36). It would have been obvious to one of ordinary skill in the fibre insulation material art at the time the invention was made to form the insulating material of Thompson, wherein the springy polyester fibers are the synthetic polyester helically shaped crimped fibers having a length between about 2 and 15 centimeters, as taught by Hauser, motivated by the desire of forming a conventional fibre insulation material with synthetic polyester fibers known in the fibre insulation material art to predictably improve the resiliency, loft and compression resistance of the fibre insulation material.

7. Claims 4-7, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson, as applied to claims 1-3 and 9 above, and further in view of USPN 5,516,580 to Frenette.

Regarding claims 4 and 13, Thompson does not appear to teach that the content of the fire-retarding chemical is between 1 and 30 of the total fibre material composition and that the fire-retarding chemical comprises at least one of Borax, Boric acid, Ammonium sulphate and aluminum sulphate mixed with the synthetic fibres. However, Thompson teaches that any suitable fire retardant chemical can be applied, for example, a boron composition (Thompson, column 8 line 37 to column 9 line 6). Since Thompson is silent as to the specific fire retarding

chemical and the amount of chemical that is applied, it would have been necessary and therefore obvious to look to the prior art for conventional fire retardant chemicals and amounts. Frenette provides this conventional teaching, showing that it was known in the insulation material art to form an insulating material comprising cellulosic fibers and synthetic fibers, wherein a fire retardant chemical such as borax, boric acid, ammonium sulphate or aluminum sulfate is typically added at 10 to 30% (Frenette, column 1 lines 7-12, column 2 lines 3-32, column 3 line 4 to column 4 line 6). It would have been obvious to one of ordinary skill in the insulation art at the time the invention was made to form the insulating material of Thompson, with the fire retardant chemical and in the amounts, as taught by Frenette, motivated by the desire of forming a conventional fibre insulation material with fire retardant chemicals and in amounts known in the insulation art to be predictably suitable in forming fire retardant fibre insulation materials.

Regarding claims 5-7 and 11, Thompson does not appear to teach that the cellulose fibres have a length between 1 to 10 mm, that the bicomponent fibres have a length between 1 to 10 mm and approximately 3 mm, and that the fibre board material is manufactured with a grammar weight of 10 to 50 kg/m<sup>3</sup>. Since Thompson is silent as to the specific length of the fibres and the weight of the material, it would have been necessary and therefore obvious to look to the prior art for conventional lengths and weights known in the insulation material art. Frenette provides this conventional teaching, showing that it was known in the insulation material art to form an insulating material comprising cellulosic fibers and synthetic fibers, wherein the cellulosic fibres have a length from about 1 mm to about 4 mm, the bicomponent fibres have a length longer than 4 mm, and wherein the resulting material has a density of 2 lb/cu.ft. or 1.5 lb./cu.ft. (Frenette, column 1 lines 7-12, column 2 lines 3-32, column 3 line 4 to column 4 line 6). It would have

been obvious to one of ordinary skill in the insulation art at the time the invention was made to form the insulating material of Thompson, with the fibre lengths and material weight, as taught by Frenette, motivated by the desire of forming a conventional fibre insulation material with bicomponent fibre lengths and a material weight known in the insulation art to be predictably suitable in forming fire retardant fibre insulation materials.

8. Claims 4-7, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Hauser, as applied to claims 1-3 and 9 above, and further in view of USPN 5,516,580 to Frenette.

Regarding claims 4 and 13, Thompson in view of Hauser does not appear to teach that the content of the fire-retarding chemical is between 1 and 30 of the total fibre material composition and that the fire-retarding chemical comprises at least one of Borax, Boric acid, Ammonium sulphate and aluminum sulphate mixed with the synthetic fibres. However, Thompson teaches that any suitable fire retardant chemical can be applied, for example, a boron composition (Thompson, column 8 line 37 to column 9 line 6). Since the prior art is silent as to the specific fire retarding chemical and the amount of chemical that is applied, it would have been necessary and therefore obvious to look to the prior art for conventional fire retardant chemicals and amounts. Frenette provides this conventional teaching, showing that it was known in the insulation material art to form an insulating material comprising cellulosic fibers and synthetic fibers, wherein a fire retardant chemical such as borax, boric acid, ammonium sulphate or aluminum sulfate is typically added at 10 to 30% (Frenette, column 1 lines 7-12, column 2 lines 3-32, column 3 line 4 to column 4 line 6). It would have been obvious to one of



ordinary skill in the insulation art at the time the invention was made to form the insulating material of the prior art, with the fire retardant chemical and in the amounts, as taught by Frenette, motivated by the desire of forming a conventional fibre insulation material with fire retardant chemicals and in amounts known in the insulation art to be predictably suitable in forming fire retardant fibre insulation materials.

Regarding claims 5-7 and 11, Thompson in view of Hauser does not appear to teach that the cellulose fibres have a length between 1 to 10 mm, that the bicomponent fibres have a length between 1 to 10 mm and approximately 3 mm, and that the fibre board material is manufactured with a grammar weight of 10 to 50 kg/m<sup>3</sup>. Since the prior art is silent as to the specific length of the fibres and the weight of the material, it would have been necessary and therefore obvious to look to the prior art for conventional lengths and weights known in the insulation material art. Frenette provides this conventional teaching, showing that it was known in the insulation material art to form an insulating material comprising cellulosic fibers and synthetic fibers, wherein the cellulosic fibres have a length from about 1 mm to about 4 mm, the bicomponent fibres have a length longer than 4 mm, and wherein the resulting material has a density of 2 lb/cu.ft. or 1.5 lb./cu.ft. (Frenette, column 1 lines 7-12, column 2 lines 3-32, column 3 line 4 to column 4 line 6). It would have been obvious to one of ordinary skill in the insulation art at the time the invention was made to form the insulating material of the prior art, with the fibre lengths and material weight, as taught by Frenette, motivated by the desire of forming a conventional fibre insulation material with bicomponent fibre lengths and a material weight known in the insulation art to be predictably suitable in forming fire retardant fibre insulation materials.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson, as applied to claims 1-3 and 9 above, and further in view of USPN 5,858,530 to McCullough.

Regarding claim 8, Thompson does not appear to teach that the synthetic fibres are hollow. Since Thompson is silent as to the exact structure of the synthetic fibres, it would have been necessary and therefore obvious to look to the prior art for conventional synthetic fibre structures in the fibre insulation material art. McCullough provides this conventional teaching showing that it was known in the fibre insulation art to form a fibre insulation material comprising synthetic fibres and natural fibres, wherein the synthetic fibres are crimped and/or hollow (McCullough, column 1 lines 8-36, column 9 lines 19-43, column 19 lines 20-30, column 23 lines 1-35). It would have been obvious to one of ordinary skill in the fibre insulation material art to form the insulating material of Thompson, wherein the synthetic fibers are hollow, as taught by McCullough, motivated by the desire of forming a conventional fibre insulation material with hollow fibers which were known in the fibre insulation material art to predictably result in flexible fibers which are cheaper without sacrificing performance.

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson in view of Hauser, as applied to claims 1-3 and 9 above, and further in view of USPN 5,858,530 to McCullough.

Regarding claim 8, Thompson in view of Hauser does not appear to teach that the synthetic fibres are hollow. Since the prior art is silent as to the exact structure of the synthetic fibres, it would have been necessary and therefore obvious to look to the prior art for conventional synthetic fibre structures in the fibre insulation material art. McCullough provides

this conventional teaching showing that it was known in the fibre insulation art to form a fibre insulation material comprising synthetic fibres and natural fibres, wherein the synthetic fibres are crimped and/or hollow (McCullough, column 1 lines 8-36, column 9 lines 19-43, column 19 lines 20-30, column 23 lines 1-35). It would have been obvious to one of ordinary skill in the fibre insulation material art to form the insulating material of the prior art, wherein the synthetic fibers are hollow, as taught by McCullough, motivated by the desire of forming a conventional fibre insulation material with hollow fibers which were known in the fibre insulation material art to predictably result in flexible fibers which are cheaper without sacrificing performance.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Y. Choi whose telephone number is (571)272-6730. The examiner can normally be reached on Monday - Friday, 08:00 - 15:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1794

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew T Piziali/  
Primary Examiner, Art Unit 1794

/Peter Y Choi/  
Examiner, Art Unit 1794